

**TUSCALOOSA AL**

Latitude = 33.22 N

Longitude = 87.62 W

Period of Record = 1973 to 1996

WMO No. 722286

Elevation = 171 feet

Average Pressure = 29.85 inches Hg

**Design Criteria Data**

|                                                  | <b>Design Value</b> | Mean Coincident (Average) Values |                         |                        |                             |
|--------------------------------------------------|---------------------|----------------------------------|-------------------------|------------------------|-----------------------------|
|                                                  |                     | Wet Bulb Temperature (°F)        | Humidity Ratio (gr/lb)  | Wind Speed (mph)       | Prevailing Direction (NSEW) |
| <b>Dry Bulb Temperature (T)</b>                  | <b>(°F)</b>         |                                  |                         |                        |                             |
| Median of Extreme Highs                          | 99                  | 78                               | 109                     | 7.7                    | W                           |
| 0.4% Occurrence                                  | 96                  | 77                               | 112                     | 7.5                    | W                           |
| 1.0% Occurrence                                  | 94                  | 77                               | 113                     | 7.5                    | W                           |
| 2.0% Occurrence                                  | 92                  | 77                               | 113                     | 7.2                    | SSW                         |
| Mean Daily Range                                 | 22                  | -                                | -                       | -                      | -                           |
| 97.5% Occurrence                                 | 28                  | 26                               | 17                      | 3.8                    | N                           |
| 99.0% Occurrence                                 | 24                  | 22                               | 13                      | 4.2                    | N                           |
| 99.6% Occurrence                                 | 20                  | 18                               | 11                      | 4.4                    | N                           |
| Median of Extreme Lows                           | 14                  | 13                               | 8                       | 6.3                    | N                           |
|                                                  | <b>Design Value</b> | Mean Coincident (Average) Values |                         |                        |                             |
|                                                  |                     | Dry Bulb Temperature (°F)        | Humidity Ratio (gr/lb)  | Wind Speed (mph)       | Prevailing Direction (NSEW) |
| <b>Wet Bulb Temperature (T<sub>wb</sub>)</b>     | <b>(°F)</b>         |                                  |                         |                        |                             |
| Median of Extreme Highs                          | 83                  | 93                               | 149                     | 6.4                    | W                           |
| 0.4% Occurrence                                  | 80                  | 91                               | 134                     | 6.2                    | W                           |
| 1.0% Occurrence                                  | 79                  | 89                               | 131                     | 6.0                    | S                           |
| 2.0% Occurrence                                  | 78                  | 88                               | 127                     | 5.8                    | S                           |
|                                                  | <b>Design Value</b> | Mean Coincident (Average) Values |                         |                        |                             |
|                                                  |                     | Dry Bulb Temperature (°F)        | Vapor Pressure (in. Hg) | Wind Speed (mph)       | Prevailing Direction (NSEW) |
| <b>Humidity Ratio (HR)</b>                       | <b>(gr/lb)</b>      |                                  |                         |                        |                             |
| Median of Extreme Highs                          | 158                 | 90                               | 1.04                    | 5.4                    | W                           |
| 0.4% Occurrence                                  | 141                 | 85                               | 0.94                    | 4.6                    | S                           |
| 1.0% Occurrence                                  | 137                 | 84                               | 0.90                    | 4.2                    | SSW                         |
| 2.0% Occurrence                                  | 132                 | 83                               | 0.88                    | 4.2                    | S                           |
| <b>Air Conditioning/<br/>Humid Area Criteria</b> | <b># of Hours</b>   | T ≥ 93°F                         | T ≥ 80°F                | T <sub>wb</sub> ≥ 73°F | T <sub>wb</sub> ≥ 67°F      |
|                                                  |                     | 138                              | 1466                    | 1508                   | 3008                        |

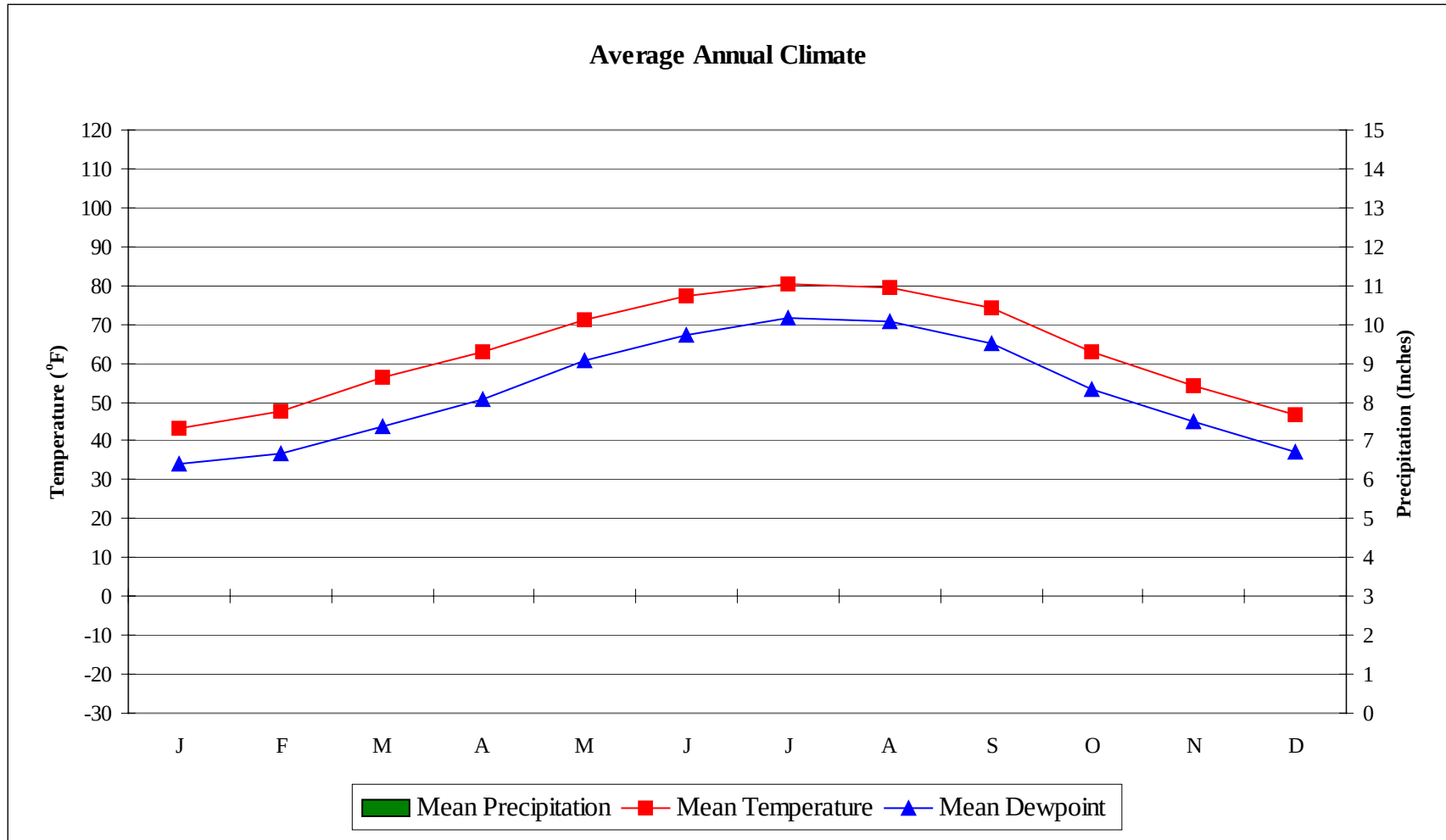
**Other Site Data**

| Weather Region                                   | Rain Rate<br>100 Year Recurrence<br>(in./hr) | Basic Wind Speed<br>3 sec gust @ 33 ft<br>50 Year Recurrence (mph) | Ventilation Cooling Load Index<br>(Ton-hr/cfm/yr) Base 75°F-RH 60%<br>Latent + Sensible |
|--------------------------------------------------|----------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 11                                               | 4.0                                          | 90                                                                 | 5.3 + 1.6                                                                               |
| Ground Water Temperature (°F)<br>50 Foot Depth * | Frost Depth<br>50 Year Recurrence<br>(in.)   | Ground Snow Load<br>50 Year Recurrence<br>(lb/ft <sup>2</sup> )    | Average Annual<br>Freeze-Thaw Cycles<br>(#)                                             |
| 65.5                                             | N/A                                          | N/A                                                                | 37                                                                                      |

\*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

TUSCALOOSA AL

WMO No. 722286

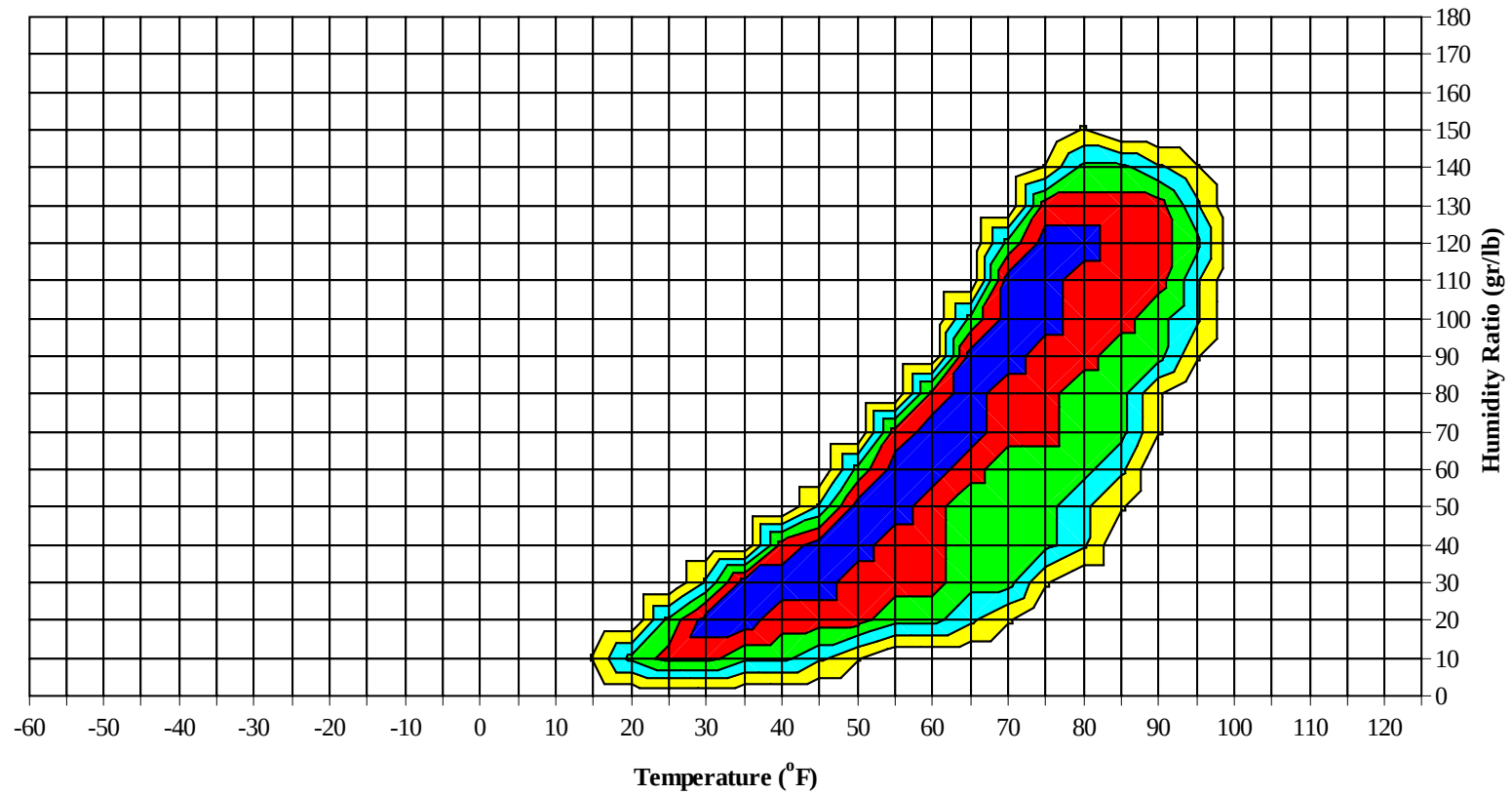


No Precipitation Data Available

TUSCALOOSA AL

WMO No. 722286

### Long Term Psychrometric Summary

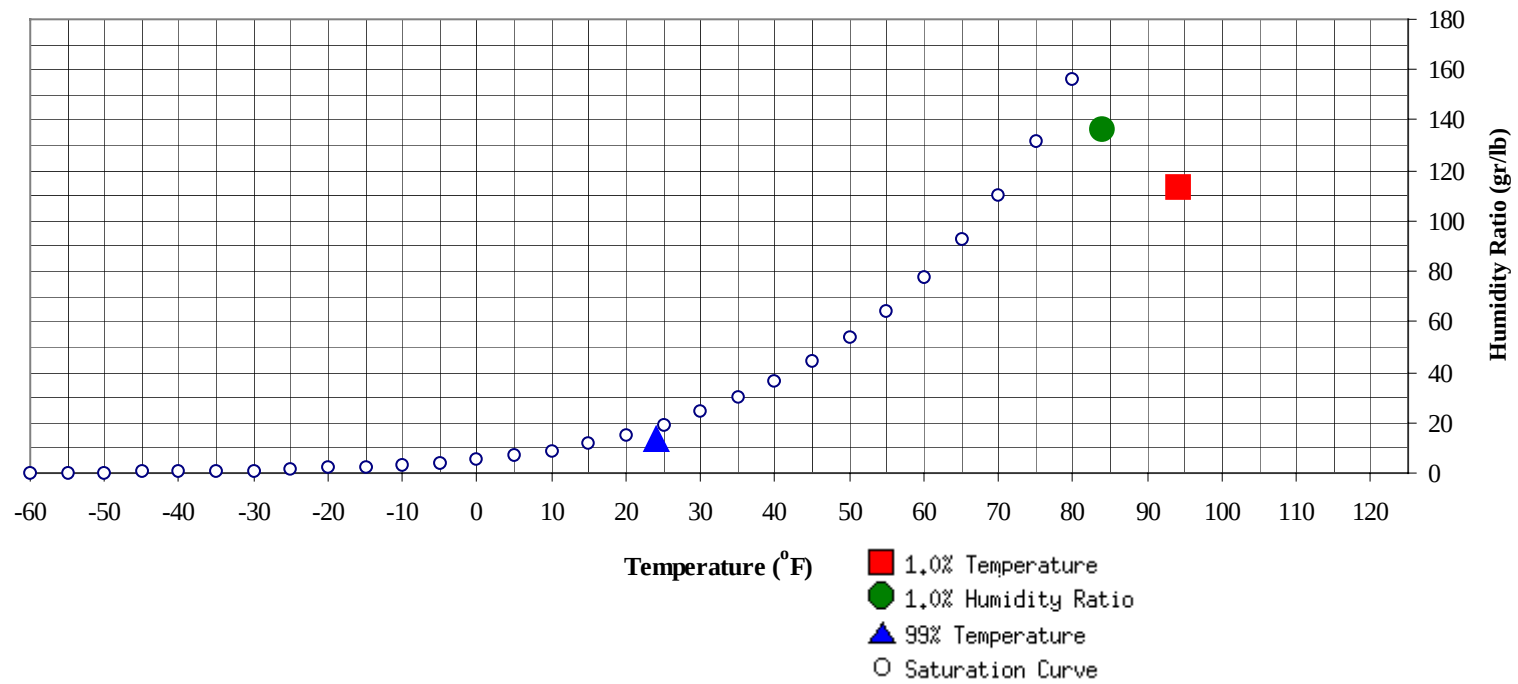


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

TUSCALOOSA AL

WMO No. 722286

## Psychrometric Summary of Peak Design Values



| 99% Dry Bulb | (°F) | MCHR<br>(gr/lb) | Enthalpy<br>(btu/lb) | 1.0% Humidity<br>Ratio | (gr/lb) | MCDB<br>(°F) | MCWB<br>(°F) | MC Dewpt<br>(°F) | Enthalpy<br>(btu/lb) |
|--------------|------|-----------------|----------------------|------------------------|---------|--------------|--------------|------------------|----------------------|
|              | 24   | 13.2            | 7.8                  |                        | 136.5   | 84           | 78.1         | 75.9             | 41.6                 |

| 1.0% Dry Bulb | (°F) | MCHR<br>(gr/lb) | MCWB<br>(°F) | Enthalpy<br>(btu/lb) |
|---------------|------|-----------------|--------------|----------------------|
|               | 94   | 113.7           | 77.1         | 40.5                 |

**TUSCALOOSA AL**

WMO No. 722286

**Dry-Bulb Temperature Hours For An Average Year (Sheet 1 of 5)**

Period of Record = 1973 to 1996

| Temperature<br>Range<br>(°F) | January             |                |                |              |                          | February            |                |                |              |                          | March               |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
|                              | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
|                              | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          |
| 100 / 104                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 95 / 99                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                | 0              | 0            | 73.5                     |
| 90 / 94                      |                     |                |                |              |                          |                     |                |                |              |                          |                     | 0              | 0              | 0            | 70.8                     |
| 85 / 89                      |                     |                |                |              |                          |                     |                |                |              |                          |                     | 1              | 0              | 1            | 67.0                     |
| 80 / 84                      |                     |                |                |              |                          |                     | 1              | 0              | 1            | 63.8                     |                     | 13             | 3              | 16           | 64.6                     |
| 75 / 79                      |                     | 1              | 0              | 1            | 66.3                     |                     | 5              | 1              | 6            | 63.0                     | 0                   | 27             | 10             | 37           | 62.7                     |
| 70 / 74                      | 0                   | 5              | 1              | 6            | 62.4                     | 1                   | 15             | 5              | 21           | 60.6                     | 6                   | 36             | 22             | 64           | 61.2                     |
| 65 / 69                      | 3                   | 12             | 6              | 21           | 59.9                     | 5                   | 23             | 15             | 43           | 58.5                     | 12                  | 41             | 28             | 81           | 58.0                     |
| 60 / 64                      | 9                   | 23             | 15             | 47           | 56.1                     | 13                  | 31             | 22             | 66           | 55.3                     | 30                  | 41             | 42             | 114          | 55.3                     |
| 55 / 59                      | 15                  | 31             | 22             | 68           | 52.0                     | 20                  | 32             | 27             | 79           | 51.3                     | 34                  | 32             | 38             | 104          | 51.3                     |
| 50 / 54                      | 21                  | 42             | 32             | 94           | 47.5                     | 20                  | 28             | 31             | 79           | 46.6                     | 38                  | 25             | 41             | 104          | 47.4                     |
| 45 / 49                      | 25                  | 41             | 39             | 104          | 42.9                     | 27                  | 30             | 32             | 90           | 42.7                     | 39                  | 18             | 28             | 85           | 43.2                     |
| 40 / 44                      | 33                  | 38             | 41             | 112          | 38.4                     | 30                  | 26             | 31             | 88           | 38.1                     | 33                  | 9              | 19             | 61           | 38.6                     |
| 35 / 39                      | 34                  | 25             | 35             | 93           | 34.0                     | 36                  | 17             | 27             | 80           | 33.9                     | 28                  | 4              | 11             | 43           | 34.7                     |
| 30 / 34                      | 42                  | 16             | 31             | 89           | 29.6                     | 30                  | 9              | 19             | 58           | 29.3                     | 18                  | 2              | 3              | 23           | 30.7                     |
| 25 / 29                      | 37                  | 9              | 18             | 64           | 25.1                     | 24                  | 4              | 10             | 38           | 25.2                     | 5                   | 1              | 1              | 7            | 25.4                     |
| 20 / 24                      | 17                  | 4              | 7              | 28           | 20.4                     | 13                  | 2              | 2              | 17           | 20.5                     | 2                   | 0              | 1              | 3            | 20.4                     |
| 15 / 19                      | 8                   | 1              | 2              | 11           | 15.8                     | 3                   | 0              | 0              | 3            | 16.5                     | 1                   |                | 0              | 1            | 16.4                     |
| 10 / 14                      | 2                   | 1              | 1              | 4            | 11.3                     | 1                   | 0              | 0              | 1            | 11.1                     | 0                   |                |                | 0            | 14.0                     |
| 5 / 9                        | 1                   | 0              | 0              | 1            | 5.7                      | 0                   |                |                | 0            | 7.5                      |                     |                |                |              |                          |
| 0 / 4                        | 1                   |                | 0              | 1            | 0.7                      |                     |                |                |              |                          |                     |                |                |              |                          |
| -5 / -1                      | 0                   |                |                | 0            | -1.0                     |                     |                |                |              |                          |                     |                |                |              |                          |

**Caution:** This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

**TUSCALOOSA AL**

WMO No. 722286

**Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)**

Period of Record = 1973 to 1996

| Temperature<br>Range<br>(°F) | April               |                |                |              |                          | May                 |                |                |              |                          | June                |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
|                              | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
|                              | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          |
| 100 / 104                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 95 / 99                      |                     |                |                |              |                          |                     | 0              | 0              | 0            | 77.0                     |                     | 8              | 1              | 9            | 75.9                     |
| 90 / 94                      |                     | 1              | 0              | 1            | 67.1                     |                     | 8              | 1              | 9            | 74.1                     | 0                   | 47             | 11             | 58           | 75.0                     |
| 85 / 89                      |                     | 9              | 1              | 10           | 67.5                     | 0                   | 45             | 10             | 55           | 71.6                     | 1                   | 79             | 26             | 106          | 73.8                     |
| 80 / 84                      |                     | 39             | 10             | 49           | 65.7                     | 1                   | 67             | 25             | 93           | 69.2                     | 11                  | 60             | 40             | 111          | 72.5                     |
| 75 / 79                      | 1                   | 43             | 20             | 64           | 63.8                     | 12                  | 59             | 43             | 114          | 67.8                     | 42                  | 30             | 64             | 136          | 71.6                     |
| 70 / 74                      | 10                  | 48             | 36             | 94           | 62.2                     | 48                  | 38             | 66             | 152          | 66.5                     | 96                  | 14             | 69             | 179          | 69.5                     |
| 65 / 69                      | 32                  | 43             | 43             | 118          | 60.1                     | 70                  | 22             | 54             | 146          | 63.5                     | 56                  | 3              | 22             | 81           | 65.4                     |
| 60 / 64                      | 42                  | 33             | 47             | 122          | 56.6                     | 55                  | 7              | 29             | 91           | 59.3                     | 24                  | 0              | 7              | 31           | 60.3                     |
| 55 / 59                      | 40                  | 16             | 35             | 91           | 52.7                     | 32                  | 1              | 13             | 46           | 54.7                     | 7                   |                | 1              | 8            | 55.5                     |
| 50 / 54                      | 44                  | 8              | 26             | 78           | 48.6                     | 20                  | 0              | 6              | 26           | 50.5                     | 2                   |                | 0              | 2            | 51.0                     |
| 45 / 49                      | 30                  | 2              | 14             | 46           | 44.6                     | 8                   |                | 1              | 9            | 46.2                     | 0                   |                |                | 0            | 46.4                     |
| 40 / 44                      | 24                  | 0              | 6              | 30           | 40.3                     | 2                   |                | 0              | 2            | 42.7                     |                     |                |                |              |                          |
| 35 / 39                      | 12                  | 0              | 1              | 13           | 36.3                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 30 / 34                      | 3                   |                | 0              | 3            | 31.4                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 25 / 29                      | 0                   |                |                | 0            | 29.0                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 20 / 24                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 15 / 19                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 10 / 14                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 5 / 9                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 0 / 4                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -5 / -1                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |

**Caution:** This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

**TUSCALOOSA AL**

WMO No. 722286

**Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)**

Period of Record = 1973 to 1996

| Temperature<br>Range<br>(°F) | July                |                |                |              |                          | August              |                |                |              |                          | September           |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
|                              | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
|                              | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          |
| 100 / 104                    |                     | 3              | 0              | 3            | 79.1                     |                     | 1              |                | 1            | 77.8                     |                     | 1              |                | 1            | 74.8                     |
| 95 / 99                      |                     | 21             | 3              | 24           | 78.0                     |                     | 16             | 2              | 18           | 78.3                     |                     | 7              | 0              | 7            | 75.3                     |
| 90 / 94                      | 0                   | 73             | 18             | 91           | 77.5                     |                     | 71             | 13             | 84           | 77.2                     | 0                   | 31             | 4              | 35           | 75.0                     |
| 85 / 89                      | 3                   | 77             | 29             | 109          | 76.4                     | 1                   | 83             | 29             | 113          | 75.9                     | 0                   | 58             | 12             | 70           | 73.5                     |
| 80 / 84                      | 20                  | 48             | 58             | 127          | 75.2                     | 15                  | 50             | 52             | 117          | 74.9                     | 3                   | 61             | 28             | 93           | 71.9                     |
| 75 / 79                      | 90                  | 21             | 90             | 201          | 73.7                     | 74                  | 22             | 90             | 185          | 73.5                     | 29                  | 45             | 60             | 134          | 70.8                     |
| 70 / 74                      | 111                 | 5              | 45             | 161          | 70.9                     | 118                 | 5              | 54             | 177          | 70.6                     | 83                  | 23             | 66             | 172          | 68.9                     |
| 65 / 69                      | 19                  | 0              | 4              | 23           | 66.3                     | 31                  | 1              | 7              | 39           | 65.8                     | 52                  | 9              | 36             | 97           | 64.5                     |
| 60 / 64                      | 5                   |                | 0              | 5            | 61.9                     | 7                   | 0              | 1              | 8            | 61.0                     | 35                  | 5              | 20             | 60           | 59.7                     |
| 55 / 59                      |                     |                |                |              |                          | 1                   |                |                | 1            | 56.2                     | 21                  | 1              | 11             | 33           | 55.3                     |
| 50 / 54                      |                     |                |                |              |                          |                     |                |                |              |                          | 11                  |                | 3              | 14           | 50.7                     |
| 45 / 49                      |                     |                |                |              |                          |                     |                |                |              |                          | 5                   |                | 0              | 5            | 46.3                     |
| 40 / 44                      |                     |                |                |              |                          |                     |                |                |              |                          | 0                   |                |                | 0            | 43.0                     |
| 35 / 39                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 30 / 34                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 25 / 29                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 20 / 24                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 15 / 19                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 10 / 14                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 5 / 9                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 0 / 4                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -5 / -1                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |

**Caution:** This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

**TUSCALOOSA AL**

WMO No. 722286

**Dry-Bulb Temperature Hours For An Average Year (Sheet 4 of 5)**

Period of Record = 1973 to 1996

| Temperature<br>Range<br>(°F) | October             |                |                |              |                          | November            |                |                |              |                          | December            |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
|                              | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
|                              | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          |
| 100 / 104                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 95 / 99                      |                     | 0              |                | 0            | 88.0                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 90 / 94                      |                     | 2              |                | 2            | 74.7                     |                     | 0              |                | 0            | 75.0                     |                     |                |                |              |                          |
| 85 / 89                      |                     | 12             | 1              | 13           | 70.8                     |                     | 0              |                | 0            | 71.0                     |                     |                |                |              |                          |
| 80 / 84                      |                     | 41             | 4              | 45           | 68.0                     |                     | 7              | 0              | 7            | 66.8                     |                     | 0              | 0              | 0            | 71.4                     |
| 75 / 79                      | 2                   | 48             | 14             | 64           | 65.5                     | 0                   | 20             | 3              | 23           | 65.3                     | 0                   | 4              | 1              | 5            | 68.4                     |
| 70 / 74                      | 17                  | 56             | 35             | 109          | 64.2                     | 5                   | 34             | 14             | 53           | 63.4                     | 3                   | 12             | 4              | 19           | 65.0                     |
| 65 / 69                      | 34                  | 42             | 44             | 120          | 61.4                     | 16                  | 39             | 24             | 79           | 60.6                     | 7                   | 21             | 14             | 42           | 60.8                     |
| 60 / 64                      | 40                  | 29             | 48             | 116          | 57.7                     | 25                  | 41             | 35             | 101          | 56.7                     | 14                  | 29             | 21             | 64           | 56.8                     |
| 55 / 59                      | 42                  | 12             | 41             | 95           | 54.0                     | 31                  | 36             | 35             | 102          | 52.1                     | 20                  | 37             | 25             | 82           | 51.7                     |
| 50 / 54                      | 41                  | 4              | 33             | 78           | 49.6                     | 27                  | 32             | 39             | 98           | 47.5                     | 25                  | 44             | 35             | 104          | 47.0                     |
| 45 / 49                      | 33                  | 1              | 20             | 54           | 45.4                     | 32                  | 19             | 33             | 84           | 43.4                     | 26                  | 37             | 35             | 98           | 42.7                     |
| 40 / 44                      | 27                  | 1              | 7              | 35           | 40.8                     | 34                  | 10             | 29             | 73           | 39.4                     | 32                  | 29             | 36             | 97           | 38.5                     |
| 35 / 39                      | 11                  | 0              | 1              | 12           | 36.4                     | 29                  | 3              | 19             | 51           | 35.3                     | 31                  | 19             | 32             | 82           | 34.1                     |
| 30 / 34                      | 2                   |                | 0              | 2            | 31.7                     | 27                  | 1              | 10             | 38           | 30.8                     | 45                  | 9              | 27             | 81           | 29.8                     |
| 25 / 29                      |                     |                |                |              |                          | 11                  | 0              | 1              | 12           | 26.9                     | 26                  | 4              | 12             | 42           | 25.3                     |
| 20 / 24                      |                     |                |                |              |                          | 1                   |                | 0              | 1            | 22.1                     | 11                  | 2              | 3              | 16           | 20.7                     |
| 15 / 19                      |                     |                |                |              |                          | 0                   |                |                | 0            | 18.0                     | 4                   | 1              | 1              | 6            | 15.7                     |
| 10 / 14                      |                     |                |                |              |                          |                     |                |                |              |                          | 2                   | 0              | 1              | 3            | 10.6                     |
| 5 / 9                        |                     |                |                |              |                          |                     |                |                |              |                          | 1                   | 0              | 0              | 1            | 6.0                      |
| 0 / 4                        |                     |                |                |              |                          |                     |                |                |              |                          | 0                   |                |                | 0            | 2.0                      |
| -5 / -1                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |

**Caution:** This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

**TUSCALOOSA AL**

WMO No. 722286

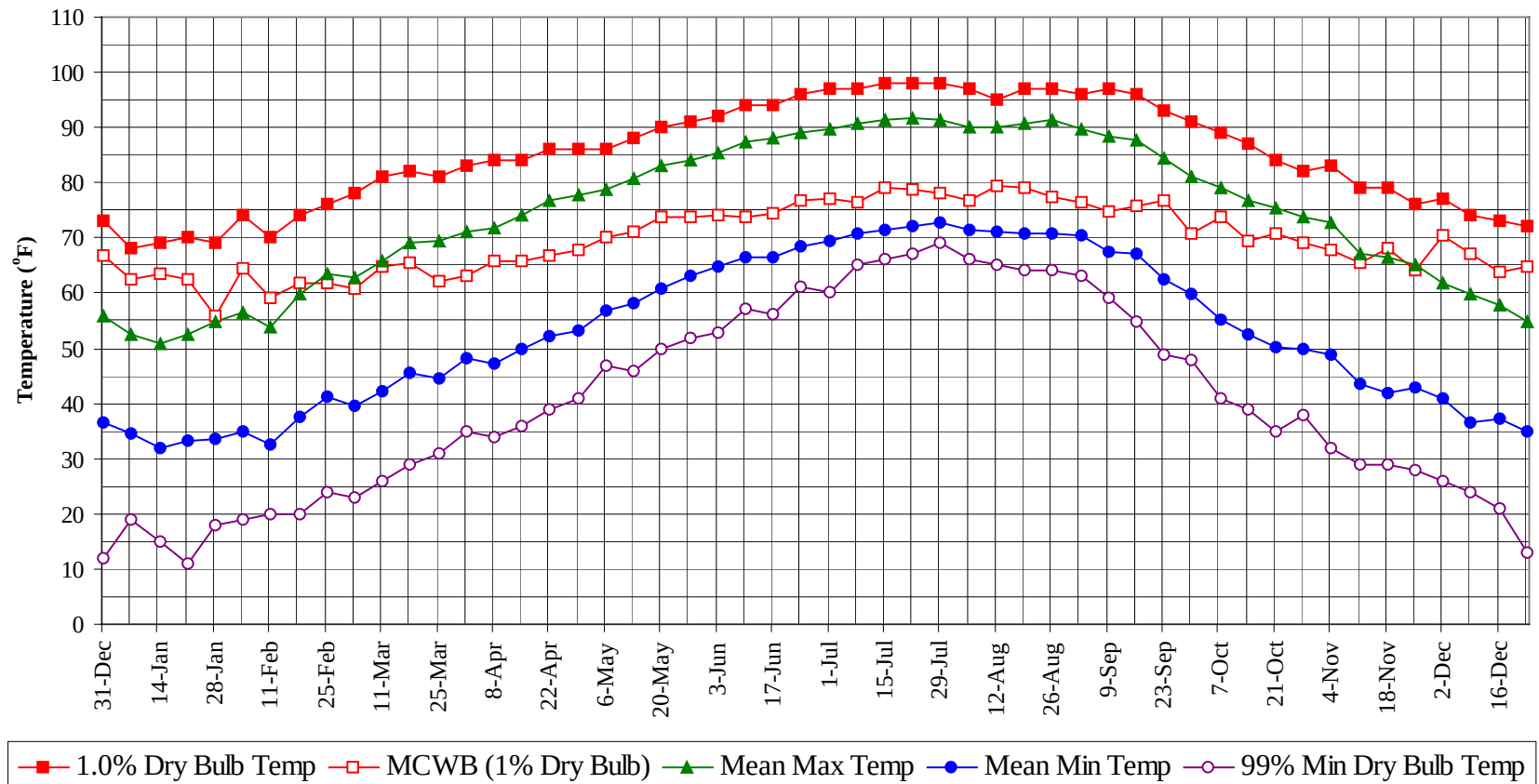
**Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)**

Period of Record = 1973 to 1996

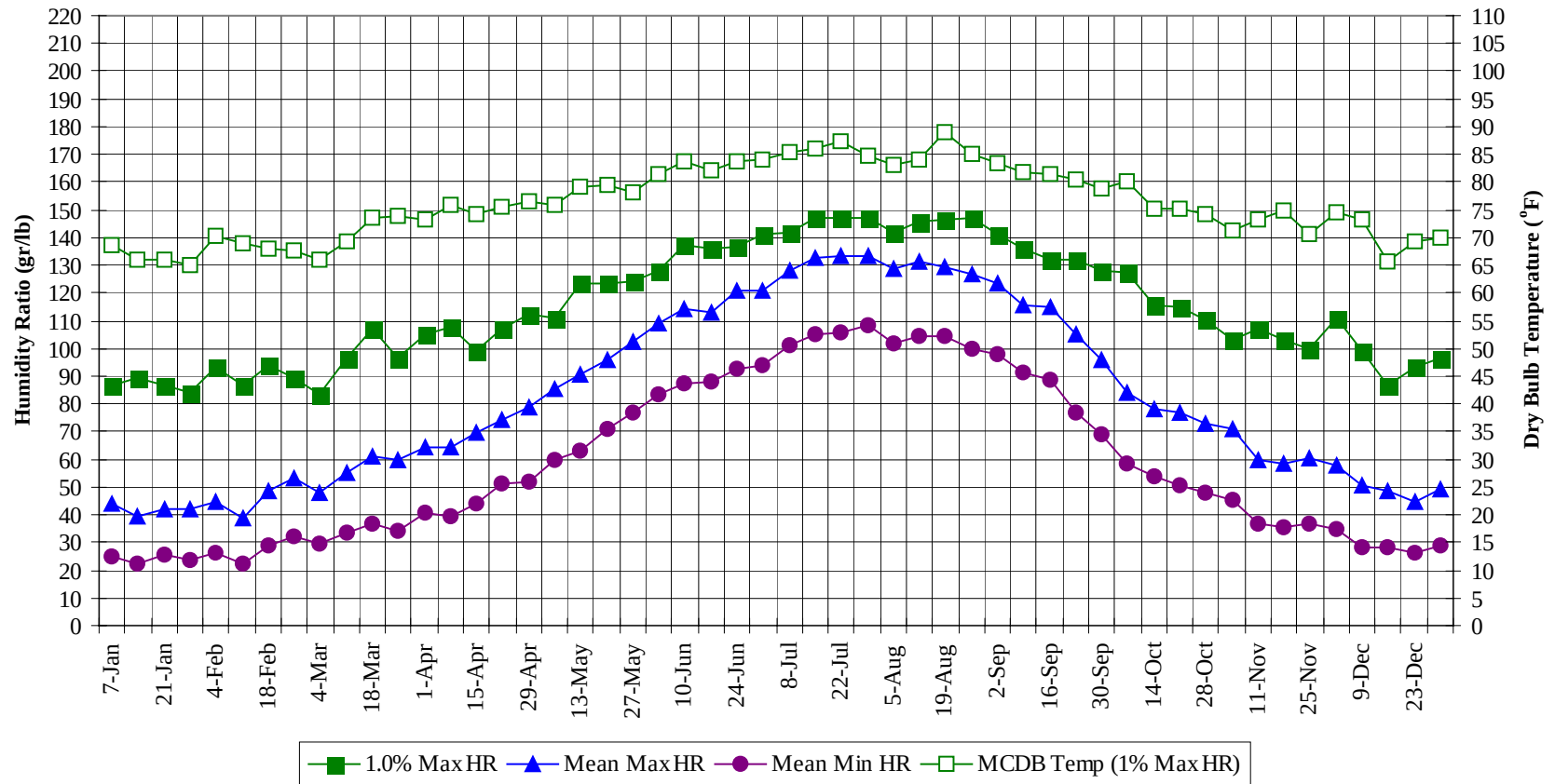
| Annual Totals                |                     |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|
| Temperature<br>Range<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
|                              | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          |
| 100 / 104                    |                     | 5              | 0              | 5            | 78.3                     |
| 95 / 99                      |                     | 53             | 7              | 60           | 77.4                     |
| 90 / 94                      | 0                   | 233            | 46             | 279          | 76.4                     |
| 85 / 89                      | 4                   | 365            | 107            | 476          | 74.4                     |
| 80 / 84                      | 50                  | 384            | 218            | 653          | 71.9                     |
| 75 / 79                      | 251                 | 322            | 396            | 969          | 70.4                     |
| 70 / 74                      | 497                 | 290            | 414            | 1202         | 67.4                     |
| 65 / 69                      | 334                 | 253            | 295            | 883          | 62.0                     |
| 60 / 64                      | 298                 | 238            | 285            | 822          | 57.2                     |
| 55 / 59                      | 263                 | 199            | 247            | 709          | 52.5                     |
| 50 / 54                      | 250                 | 184            | 246            | 680          | 47.9                     |
| 45 / 49                      | 226                 | 148            | 204            | 579          | 43.4                     |
| 40 / 44                      | 217                 | 113            | 172            | 503          | 38.9                     |
| 35 / 39                      | 184                 | 69             | 128            | 381          | 34.4                     |
| 30 / 34                      | 170                 | 37             | 91             | 298          | 29.8                     |
| 25 / 29                      | 106                 | 18             | 43             | 167          | 25.3                     |
| 20 / 24                      | 45                  | 7              | 13             | 65           | 20.5                     |
| 15 / 19                      | 16                  | 2              | 3              | 21           | 15.9                     |
| 10 / 14                      | 5                   | 1              | 2              | 8            | 11.0                     |
| 5 / 9                        | 2                   | 0              | 1              | 3            | 6.0                      |
| 0 / 4                        | 1                   |                | 0              | 1            | 0.9                      |
| -5 / -1                      | 0                   |                |                | 0            | -1.0                     |

**Caution:** This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

## Annual Summary of Temperatures



## Long Term Humidity and Dry Bulb Temperature Summary



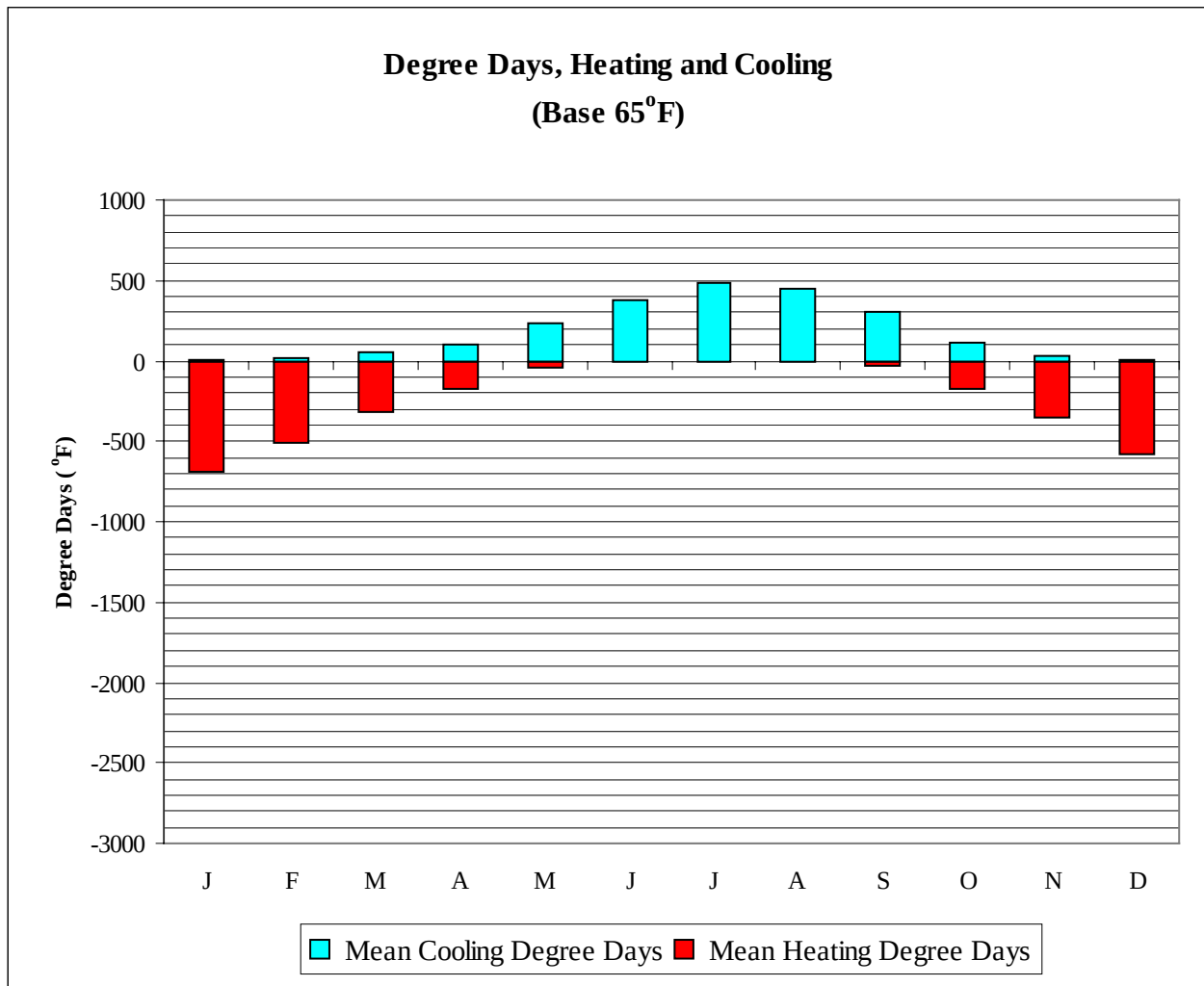
**TUSCALOOSA****AL****WMO No. 722286****Long Term Dry Bulb Temperature and Humidity Summary**

| Week<br>Ending | 1.0%<br>Temp (°F) | MCWB @<br>1% Temp (°F) | Mean Max<br>Temp (°F) | Mean Min<br>Temp (°F) | 99%<br>Temp (°F) | 1.0%<br>HR (gr/lb) | MCDB @<br>1% HR (°F) | Mean Max<br>HR (gr/lb) | Mean Min<br>HR (gr/lb) |
|----------------|-------------------|------------------------|-----------------------|-----------------------|------------------|--------------------|----------------------|------------------------|------------------------|
| 7-Jan          | 68.0              | 62.4                   | 52.6                  | 34.7                  | 19.0             | 86.8               | 68.7                 | 43.7                   | 25.1                   |
| 14-Jan         | 69.0              | 63.3                   | 50.9                  | 31.8                  | 15.0             | 89.6               | 66.0                 | 39.4                   | 22.5                   |
| 21-Jan         | 70.0              | 62.4                   | 52.6                  | 33.3                  | 11.0             | 86.8               | 66.1                 | 41.9                   | 25.4                   |
| 28-Jan         | 69.0              | 55.7                   | 55.0                  | 33.6                  | 18.0             | 84.0               | 64.9                 | 42.3                   | 23.9                   |
| 4-Feb          | 74.0              | 64.4                   | 56.3                  | 35.1                  | 19.0             | 93.1               | 70.3                 | 44.9                   | 26.5                   |
| 11-Feb         | 70.0              | 59.1                   | 53.8                  | 32.7                  | 20.0             | 86.8               | 68.9                 | 38.7                   | 22.6                   |
| 18-Feb         | 74.0              | 61.8                   | 59.7                  | 37.6                  | 20.0             | 93.8               | 68.1                 | 48.7                   | 28.7                   |
| 25-Feb         | 76.0              | 61.7                   | 63.5                  | 41.1                  | 24.0             | 89.6               | 67.6                 | 52.9                   | 32.2                   |
| 4-Mar          | 78.0              | 60.8                   | 62.8                  | 39.5                  | 23.0             | 83.3               | 66.0                 | 48.2                   | 29.3                   |
| 11-Mar         | 81.0              | 64.7                   | 65.8                  | 42.3                  | 26.0             | 96.6               | 69.4                 | 55.2                   | 33.6                   |
| 18-Mar         | 82.0              | 65.6                   | 69.1                  | 45.4                  | 29.0             | 107.1              | 73.5                 | 61.1                   | 36.7                   |
| 25-Mar         | 81.0              | 62.1                   | 69.3                  | 44.7                  | 31.0             | 96.6               | 74.0                 | 60.0                   | 34.4                   |
| 1-Apr          | 83.0              | 63.3                   | 71.2                  | 48.2                  | 35.0             | 105.0              | 73.2                 | 64.4                   | 40.4                   |
| 8-Apr          | 84.0              | 65.9                   | 71.7                  | 47.3                  | 34.0             | 107.8              | 75.8                 | 64.6                   | 39.5                   |
| 15-Apr         | 84.0              | 65.9                   | 74.2                  | 49.8                  | 36.0             | 99.4               | 74.3                 | 69.8                   | 44.3                   |
| 22-Apr         | 86.0              | 66.8                   | 76.8                  | 52.3                  | 39.0             | 107.1              | 75.5                 | 74.5                   | 50.9                   |
| 29-Apr         | 86.0              | 67.7                   | 77.8                  | 53.3                  | 41.0             | 112.0              | 76.4                 | 78.7                   | 52.1                   |
| 6-May          | 86.0              | 70.2                   | 78.8                  | 56.9                  | 47.0             | 111.3              | 76.0                 | 85.1                   | 59.8                   |
| 13-May         | 88.0              | 71.2                   | 80.6                  | 58.1                  | 46.0             | 123.2              | 79.1                 | 90.8                   | 63.3                   |
| 20-May         | 90.0              | 73.7                   | 83.0                  | 61.0                  | 50.0             | 123.2              | 79.5                 | 95.9                   | 70.9                   |
| 27-May         | 91.0              | 73.9                   | 84.0                  | 63.1                  | 52.0             | 123.9              | 78.2                 | 102.6                  | 77.1                   |
| 3-Jun          | 92.0              | 74.0                   | 85.4                  | 64.8                  | 53.0             | 128.1              | 81.6                 | 109.1                  | 83.1                   |
| 10-Jun         | 94.0              | 73.6                   | 87.4                  | 66.5                  | 57.0             | 137.2              | 83.8                 | 114.1                  | 87.5                   |
| 17-Jun         | 94.0              | 74.3                   | 88.0                  | 66.5                  | 56.0             | 135.8              | 82.2                 | 113.0                  | 87.8                   |
| 24-Jun         | 96.0              | 76.7                   | 89.2                  | 68.5                  | 61.0             | 136.5              | 83.9                 | 120.7                  | 92.8                   |
| 1-Jul          | 97.0              | 77.2                   | 89.6                  | 69.4                  | 60.0             | 141.4              | 84.1                 | 120.7                  | 93.9                   |
| 8-Jul          | 97.0              | 76.5                   | 90.7                  | 70.9                  | 65.0             | 142.1              | 85.2                 | 128.2                  | 101.2                  |
| 15-Jul         | 98.0              | 79.2                   | 91.2                  | 71.6                  | 66.0             | 147.0              | 85.9                 | 132.4                  | 105.0                  |
| 22-Jul         | 98.0              | 78.6                   | 91.7                  | 72.0                  | 67.0             | 147.0              | 87.4                 | 133.1                  | 105.5                  |
| 29-Jul         | 98.0              | 78.2                   | 91.3                  | 72.7                  | 69.0             | 147.0              | 84.8                 | 133.5                  | 108.1                  |
| 5-Aug          | 97.0              | 76.8                   | 90.0                  | 71.4                  | 66.0             | 142.1              | 83.1                 | 128.7                  | 101.6                  |
| 12-Aug         | 95.0              | 79.6                   | 90.2                  | 71.3                  | 65.0             | 145.6              | 84.0                 | 131.1                  | 104.7                  |
| 19-Aug         | 97.0              | 79.1                   | 90.7                  | 70.8                  | 64.0             | 146.3              | 88.9                 | 129.3                  | 104.1                  |
| 26-Aug         | 97.0              | 77.3                   | 91.6                  | 70.6                  | 64.0             | 147.0              | 84.9                 | 127.0                  | 100.1                  |
| 2-Sep          | 96.0              | 76.5                   | 89.8                  | 70.6                  | 63.0             | 141.4              | 83.5                 | 123.4                  | 98.2                   |
| 9-Sep          | 97.0              | 74.8                   | 88.5                  | 67.6                  | 59.0             | 135.8              | 81.7                 | 115.9                  | 91.1                   |
| 16-Sep         | 96.0              | 75.9                   | 87.7                  | 67.0                  | 55.0             | 132.3              | 81.5                 | 115.2                  | 88.8                   |
| 23-Sep         | 93.0              | 76.7                   | 84.4                  | 62.4                  | 49.0             | 132.3              | 80.5                 | 104.9                  | 77.0                   |
| 30-Sep         | 91.0              | 70.9                   | 81.0                  | 59.7                  | 48.0             | 128.1              | 78.9                 | 95.6                   | 69.1                   |
| 7-Oct          | 89.0              | 73.8                   | 79.2                  | 55.1                  | 41.0             | 127.4              | 80.1                 | 84.4                   | 58.6                   |
| 14-Oct         | 87.0              | 69.5                   | 76.9                  | 52.4                  | 39.0             | 115.5              | 75.1                 | 77.9                   | 53.8                   |
| 21-Oct         | 84.0              | 70.9                   | 75.6                  | 50.3                  | 35.0             | 114.8              | 75.2                 | 76.7                   | 50.5                   |
| 28-Oct         | 82.0              | 69.0                   | 73.9                  | 49.8                  | 38.0             | 110.6              | 74.3                 | 72.8                   | 48.1                   |
| 4-Nov          | 83.0              | 67.7                   | 72.7                  | 48.7                  | 32.0             | 102.9              | 71.3                 | 71.0                   | 45.5                   |
| 11-Nov         | 79.0              | 65.5                   | 67.2                  | 43.6                  | 29.0             | 107.1              | 73.1                 | 59.8                   | 36.8                   |
| 18-Nov         | 79.0              | 68.3                   | 66.6                  | 41.9                  | 29.0             | 102.9              | 75.0                 | 58.3                   | 35.2                   |
| 25-Nov         | 76.0              | 64.1                   | 65.1                  | 42.9                  | 28.0             | 100.1              | 70.5                 | 60.2                   | 36.7                   |
| 2-Dec          | 77.0              | 70.6                   | 61.8                  | 40.8                  | 26.0             | 111.3              | 74.5                 | 57.7                   | 34.6                   |
| 9-Dec          | 74.0              | 67.3                   | 59.9                  | 36.7                  | 24.0             | 99.4               | 73.1                 | 50.4                   | 28.3                   |
| 16-Dec         | 73.0              | 63.8                   | 58.0                  | 37.4                  | 21.0             | 86.8               | 65.7                 | 48.5                   | 28.2                   |
| 23-Dec         | 72.0              | 64.8                   | 54.7                  | 35.1                  | 13.0             | 93.1               | 69.4                 | 44.8                   | 26.4                   |
| 31-Dec         | 73.0              | 66.8                   | 55.7                  | 36.6                  | 12.0             | 96.6               | 69.9                 | 49.2                   | 28.7                   |

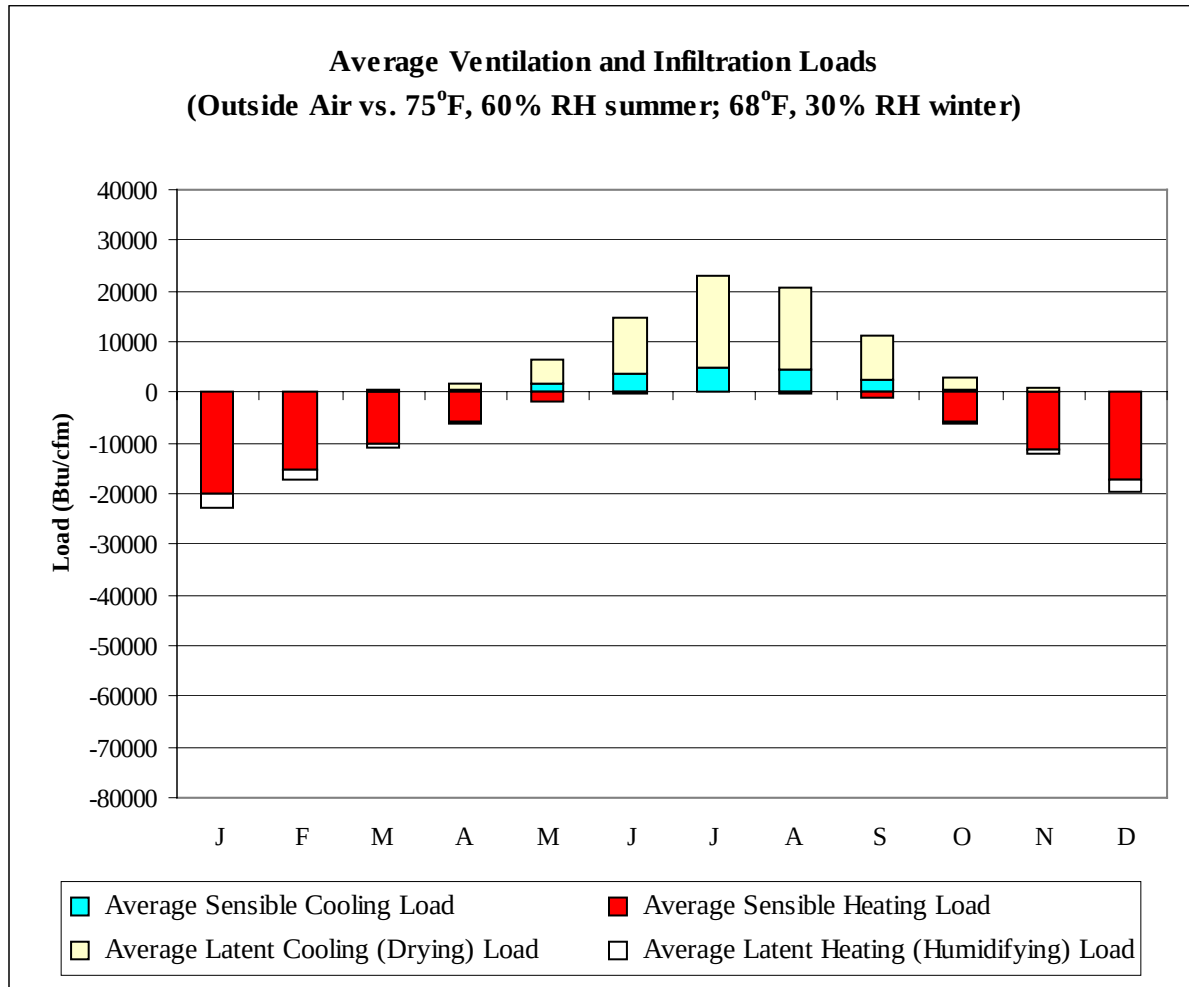
TUSCALOOSA

AL

WMO No. 722286



|     | Mean Cooling<br>Degree Days (°F) | Mean Heating<br>Degree Days (°F) |
|-----|----------------------------------|----------------------------------|
| JAN | 3                                | 684                              |
| FEB | 13                               | 508                              |
| MAR | 51                               | 314                              |
| APR | 104                              | 168                              |
| MAY | 228                              | 45                               |
| JUN | 376                              | 7                                |
| JUL | 481                              | 0                                |
| AUG | 455                              | 1                                |
| SEP | 304                              | 28                               |
| OCT | 114                              | 173                              |
| NOV | 35                               | 359                              |
| DEC | 11                               | 581                              |
| ANN | 2175                             | 2868                             |



|     | Average Sensible Cooling Load | Average Sensible Heating Load | Average Latent Cooling Load | Average Latent Heating Load |
|-----|-------------------------------|-------------------------------|-----------------------------|-----------------------------|
|     | (Btu/cfm)                     | (Btu/cfm)                     | (Btu/cfm)                   | (Btu/cfm)                   |
| JAN | 2                             | -20089                        | 82                          | -2868                       |
| FEB | 17                            | -15190                        | 146                         | -2199                       |
| MAR | 187                           | -9951                         | 396                         | -929                        |
| APR | 578                           | -5762                         | 1012                        | -231                        |
| MAY | 1653                          | -1869                         | 4824                        | -3                          |
| JUN | 3613                          | -382                          | 11017                       | 0                           |
| JUL | 5058                          | -40                           | 18001                       | 0                           |
| AUG | 4644                          | -83                           | 16111                       | 0                           |
| SEP | 2592                          | -1170                         | 8738                        | 0                           |
| OCT | 605                           | -5908                         | 2128                        | -99                         |
| NOV | 83                            | -11230                        | 669                         | -851                        |
| DEC | 8                             | -17338                        | 293                         | -2256                       |
| ANN | 19040                         | -89012                        | 63417                       | -9436                       |

## Average Annual Solar Radiation – Nearest Available Site

(Source: National Renewable Energy Laboratory, Golden CO, 1995)

City: BIRMINGHAM  
 State: AL  
 WBAN No: 13876  
 Lat(N): 33.57  
 Long(W): 86.75  
 Elev(ft): 630

Stn Type: Secondary  
 SHADING GEOMETRY IN DIMENSIONLESS UNITS  
 Window: 1  
 Overhang: 0.354  
 Vert Gap: 0.271

| AVERAGE INCIDENT SOLAR RADIATION (Btu/sq.ft./day), Percentage Uncertainty = 9 |         | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  | Year |
|-------------------------------------------------------------------------------|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| HORIZ                                                                         | Global  | 810  | 1050 | 1380 | 1730 | 1900 | 1970 | 1870 | 1780 | 1510 | 1270 | 900  | 740  | 1410 |
|                                                                               | Std Dev | 58   | 89   | 111  | 121  | 120  | 146  | 134  | 109  | 101  | 112  | 77   | 55   | 40   |
|                                                                               | Minimum | 710  | 880  | 1170 | 1480 | 1690 | 1680 | 1670 | 1510 | 1260 | 1020 | 700  | 620  | 1330 |
|                                                                               | Maximum | 950  | 1260 | 1640 | 1940 | 2170 | 2270 | 2160 | 2000 | 1710 | 1470 | 1020 | 840  | 1470 |
|                                                                               | Diffuse | 380  | 470  | 600  | 720  | 850  | 920  | 930  | 850  | 700  | 500  | 400  | 350  | 640  |
| Clear Day                                                                     | Global  | 1180 | 1510 | 1930 | 2310 | 2520 | 2580 | 2510 | 2300 | 1970 | 1560 | 1210 | 1060 | 1890 |
| NORTH                                                                         | Global  | 240  | 300  | 370  | 460  | 560  | 630  | 590  | 500  | 410  | 330  | 260  | 220  | 410  |
|                                                                               | Diffuse | 240  | 300  | 370  | 450  | 510  | 540  | 530  | 490  | 410  | 330  | 260  | 220  | 390  |
| Clear Day                                                                     | Global  | 220  | 270  | 340  | 440  | 590  | 680  | 630  | 490  | 390  | 310  | 240  | 210  | 400  |
| EAST                                                                          | Global  | 510  | 640  | 800  | 960  | 1030 | 1060 | 1020 | 1000 | 860  | 760  | 550  | 460  | 800  |
|                                                                               | Diffuse | 290  | 350  | 450  | 550  | 620  | 650  | 640  | 610  | 510  | 410  | 310  | 260  | 470  |
| Clear Day                                                                     | Global  | 830  | 1010 | 1200 | 1330 | 1380 | 1370 | 1340 | 1270 | 1150 | 970  | 810  | 750  | 1120 |
| SOUTH                                                                         | Global  | 1080 | 1130 | 1070 | 930  | 740  | 670  | 690  | 840  | 1020 | 1250 | 1140 | 1060 | 970  |
|                                                                               | Diffuse | 380  | 430  | 510  | 540  | 560  | 560  | 570  | 580  | 560  | 490  | 410  | 360  | 500  |
| Clear Day                                                                     | Global  | 2040 | 1970 | 1670 | 1210 | 870  | 730  | 790  | 1040 | 1430 | 1750 | 1910 | 1960 | 1450 |
| WEST                                                                          | Global  | 530  | 670  | 830  | 980  | 1030 | 1040 | 960  | 950  | 870  | 770  | 570  | 490  | 810  |
|                                                                               | Diffuse | 290  | 360  | 460  | 550  | 630  | 660  | 640  | 610  | 520  | 410  | 320  | 270  | 480  |
| Clear Day                                                                     | Global  | 830  | 1010 | 1200 | 1330 | 1380 | 1370 | 1340 | 1270 | 1150 | 970  | 810  | 750  | 1120 |

## Average Annual Solar Heat and Illumination – Nearest Available Site

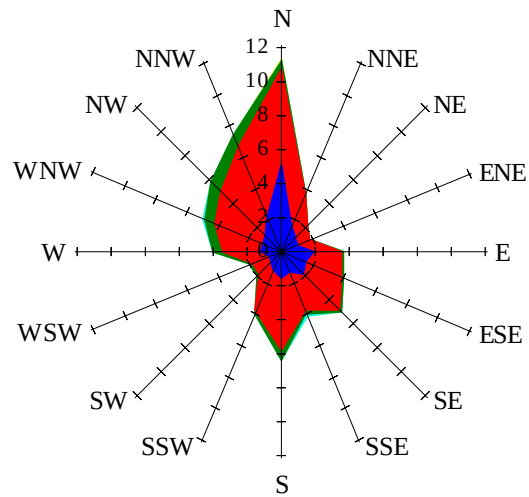
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

| AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 9 |          | Jan | Feb | Mar | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct | Nov | Dec | Year |
|-----------------------------------------------------------------------------------------------------|----------|-----|-----|-----|------|------|------|------|------|------|-----|-----|-----|------|
| HORIZ                                                                                               | Unshaded | 540 | 730 | 980 | 1250 | 1380 | 1440 | 1360 | 1290 | 1090 | 900 | 610 | 490 | 1010 |
| NORTH                                                                                               | Unshaded | 170 | 210 | 260 | 310  | 370  | 410  | 390  | 340  | 290  | 230 | 180 | 150 | 270  |
|                                                                                                     | Shaded   | 150 | 190 | 240 | 290  | 340  | 370  | 360  | 320  | 270  | 210 | 170 | 140 | 250  |
| EAST                                                                                                | Unshaded | 350 | 450 | 570 | 680  | 730  | 750  | 720  | 710  | 610  | 530 | 380 | 320 | 570  |
|                                                                                                     | Shaded   | 330 | 410 | 520 | 620  | 660  | 680  | 650  | 640  | 560  | 490 | 360 | 300 | 520  |
| SOUTH                                                                                               | Unshaded | 800 | 810 | 720 | 580  | 450  | 410  | 430  | 520  | 670  | 880 | 840 | 800 | 660  |
|                                                                                                     | Shaded   | 790 | 770 | 610 | 440  | 360  | 360  | 360  | 400  | 540  | 800 | 820 | 780 | 580  |
| WEST                                                                                                | Unshaded | 370 | 470 | 580 | 700  | 730  | 730  | 680  | 670  | 610  | 550 | 400 | 340 | 570  |
|                                                                                                     | Shaded   | 340 | 430 | 540 | 640  | 670  | 670  | 610  | 620  | 560  | 510 | 370 | 310 | 520  |

| AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9 |          | March |      |     |     |     | June |      |     |     |     |
|------------------------------------------------------------------------------------------------------------------|----------|-------|------|-----|-----|-----|------|------|-----|-----|-----|
|                                                                                                                  |          | 9am   | 11am | 1pm | 3pm | 5pm | 9am  | 11am | 1pm | 3pm | 5pm |
| HORIZ.                                                                                                           | M.Clear  | 50    | 82   | 89  | 66  | 24  | 50   | 88   | 103 | 92  | 61  |
|                                                                                                                  | M.Cloudy | 28    | 51   | 57  | 41  | 15  | 34   | 61   | 76  | 72  | 45  |
| NORTH                                                                                                            | M.Clear  | 11    | 15   | 15  | 13  | 7   | 21   | 18   | 17  | 18  | 19  |
|                                                                                                                  | M.Cloudy | 11    | 17   | 18  | 14  | 7   | 16   | 19   | 19  | 19  | 17  |
| EAST                                                                                                             | M.Clear  | 79    | 53   | 15  | 13  | 7   | 74   | 68   | 25  | 18  | 16  |
|                                                                                                                  | M.Cloudy | 29    | 31   | 18  | 14  | 7   | 38   | 44   | 24  | 19  | 15  |
| SOUTH                                                                                                            | M.Clear  | 43    | 71   | 76  | 57  | 21  | 14   | 27   | 37  | 31  | 16  |
|                                                                                                                  | M.Cloudy | 19    | 38   | 43  | 31  | 10  | 13   | 24   | 31  | 28  | 15  |
| WEST                                                                                                             | M.Clear  | 11    | 15   | 31  | 73  | 63  | 14   | 18   | 17  | 57  | 74  |
|                                                                                                                  | M.Cloudy | 11    | 17   | 24  | 36  | 23  | 13   | 19   | 19  | 45  | 47  |
| M.Clear                                                                                                          | (% hrs)  | 35    | 32   | 31  | 32  | 35  | 44   | 42   | 28  | 29  | 34  |
|                                                                                                                  |          | Sept  |      |     |     |     | Dec  |      |     |     |     |
|                                                                                                                  |          | 9am   | 11am | 1pm | 3pm | 5pm | 9am  | 11am | 1pm | 3pm | 5pm |
| HORIZ.                                                                                                           | M.Clear  | 35    | 74   | 90  | 78  | 42  | 27   | 54   | 57  | 34  | 3   |
|                                                                                                                  | M.Cloudy | 21    | 49   | 64  | 56  | 30  | 14   | 30   | 33  | 19  | 2   |
| NORTH                                                                                                            | M.Clear  | 10    | 16   | 17  | 17  | 12  | 8    | 11   | 12  | 9   | 2   |
|                                                                                                                  | M.Cloudy | 9     | 17   | 19  | 18  | 12  | 6    | 12   | 13  | 8   | 1   |
| EAST                                                                                                             | M.Clear  | 66    | 66   | 23  | 17  | 12  | 55   | 38   | 12  | 9   | 2   |
|                                                                                                                  | M.Cloudy | 25    | 38   | 22  | 18  | 12  | 14   | 19   | 13  | 8   | 1   |
| SOUTH                                                                                                            | M.Clear  | 23    | 55   | 69  | 58  | 29  | 54   | 87   | 90  | 63  | 6   |
|                                                                                                                  | M.Cloudy | 13    | 33   | 45  | 39  | 19  | 14   | 31   | 35  | 21  | 2   |
| WEST                                                                                                             | M.Clear  | 10    | 16   | 17  | 59  | 68  | 8    | 11   | 30  | 57  | 10  |
|                                                                                                                  | M.Cloudy | 9     | 17   | 19  | 40  | 35  | 6    | 12   | 18  | 19  | 3   |
| M.Clear                                                                                                          | (% hrs)  | 44    | 43   | 33  | 35  | 42  | 34   | 35   | 35  | 35  | 38  |

### Wind Summary - December, January, and February

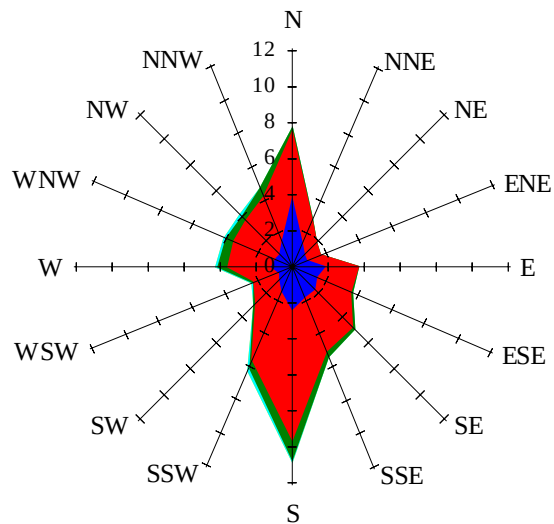
Labels of Percent Frequency on North Axis



Percent Calm = 28.30

### Wind Summary - March, April, and May

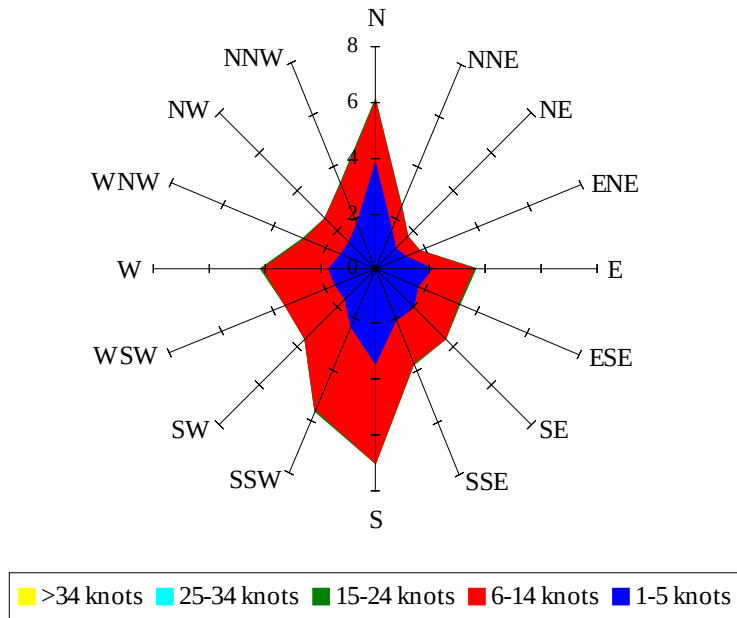
Labels of Percent Frequency on North Axis



Percent Calm = 29.46

### Wind Summary - June, July, and August

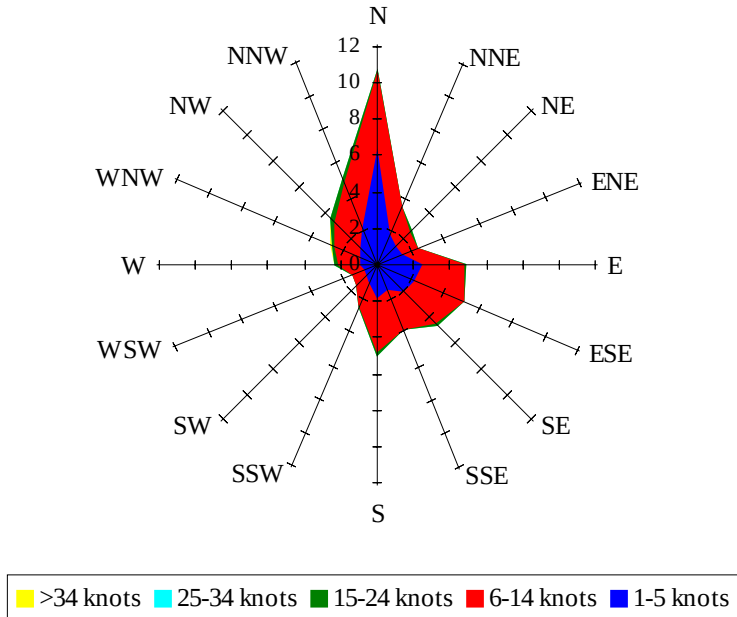
Labels of Percent Frequency on North Axis



Percent Calm = 41.46

### Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 38.77